

CLAIMS:

1. An installation for providing a concentrate burner, that is adapted on top
5 of a reaction shaft of a suspension smelting furnace, with continuous
and constant feed of fine-grained matter, comprising
a bin having an inlet and an outlet for the fine-grained matter;
a feed control unit for providing the feed of the fine-grained matter with
accurately controlled feed rate; and
10 a pneumatic conveyor adapted to transport the fine-grained matter up to
the top level of the suspension smelting furnace;
characterized in that,
the outlet of the bin for the fine-grained matter locates essentially at a
lower level than the top of the reaction shaft;
15 the feed control unit is adapted to receive the fine-grained matter from
the outlet of the bin and to provide the pneumatic conveyor with the feed
of the fine-grained matter;
the pneumatic conveyor is adapted to provide the concentrate burner
with a feed rate that equals with the feed rate provided by the feed
20 control unit; and
the concentrate burner is a sleeve type burner or a diffusion type burner.
2. The installation of claim 1, characterized in that the fine-grained matter
comprises metal concentrate.
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3. The installation of claim 1, characterized in that the fine-grained matter
comprises metal concentrate and fluxing agent.
4. The installation of claim 1, characterized in that the fine-grained matter
30 comprises metal concentrate, fluxing agent and flue dust.

- 5 5. The installation of claim 1, characterized in that it comprises a first bin for a dried mixture of metal concentrate and fluxing agent, a second bin for flue dust, a first feed rate controller for the mixture of metal concentrate and fluxing agent and a second feed rate controller for the flue dust.
6. The installation of claims 1 – 5, characterized in that the pneumatic conveyor is a dilute-phase pneumatic conveyor.
- 10 7. The installation of claims 1 – 5, characterized in that the pneumatic conveyor is a dense-phase pneumatic conveyor.
- 15 8. The installation of claims 1 – 5, characterized in that the pneumatic conveyor is an air-lift type pneumatic conveyor and the air-lift is provided with an expansion vessel adapted to feed the particulate matter into the burner of the suspension smelting furnace via an air-lock feeder and an air-slide conveyor.
- 20 9. The installation of claims 1 – 5, characterized in that the feed control unit is a loss-in-weight controller and the pneumatic conveyor is a dilute-phase pneumatic conveyor.
- 25 10. The installation of claims 1 – 5, characterized in that the feed control unit is a loss-in-weight controller and the pneumatic conveyor is an air-lift type pneumatic conveyor.
- 30 11. A method of providing a concentrate burner such as a sleeve type burner or a diffusion type burner, that is adapted on top of a reaction shaft of a suspension smelting furnace, with uninterrupted and controlled feed of fine-grained matter comprising metal concentrate, **characterized** in that the method comprises steps of feeding fine-grained matter in a bin having an outlet at a lower level than

the burner;

forming and sustaining in the bin a storage of the fine-grained matter corresponding with at least one hours feed of the suspension smelting furnace;

- 5 feeding fine-grained matter in a feed rate controller unit that provides the pneumatic controller with an uninterrupted and controlled feed of the fine-grained matter; and
- conveying the matter with the pneumatic conveyor in the burner of the suspension smelting furnace.

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12. The method of claim 11, characterized in that the feed rate controller operates according to the principle of loss-in weight - type controller.

13. The method of claim 11, characterized in that it further comprises a step
- 15 of feeding flue dust into the pneumatic conveyor.